REMARKS

The Office Action dated February 14, 2006 has been reviewed and the comments of the U.S. Patent and Trademark Office have been considered. Claim 24 has been amended to correct a typographical error. No new matter has been added by this amendment. Accordingly, claims 2, 6-8, 10, 18, 20, 22, 24, 32 and 44-72 are currently pending in this Application.

Applicant appreciates the Examiner's thorough review of the application and response.

Reconsideration and allowance are respectfully requested.

Claims 2, 6-8, 10, 18, 22, 24, 44-48, 51-54 and 67-72 are patentable under 35 U.S.C. 103(a) over Hsu (U.S. Patent 5,040,582) in view of Brown (U.S. Patent 671,467).

Independent claim 2 describes a wood board, comprising a first layer of wood; a second layer of wood disposed in contact with said first layer of wood; a third layer of wood disposed in contact with said second layer of wood; a fourth layer of wood disposed in contact with said third layer of wood; and a fifth layer of wood disposed in contact with said fourth layer of wood, wherein said first layer of wood, said second layer of wood, said third layer of wood, said fourth layer of wood, and said fifth layer of wood are hardwood and oriented so that grain of said first layer of wood, grain of said second layer of wood, grain of said third layer of wood, grain of said fourth layer of wood, and grain of said fifth layer of wood are unilaterally aligned. Independent claim 2 is an exemplary claim.

Independent claim 18 describes a wood board comprising a first, second, third, fourth and fifth layer of wood, wherein said layers of wood are hardwood, laminated together in parallel planes, and oriented so that grain of said five layers of wood are unilaterally aligned.

Claims 6-8, 10, 22, 24, 44-48, 51-54 and 67-72 describe variations of the wood board described in claims 2 and 18. Independent claim 44 requires at least two layers of wood be in contact with grain unilaterally aligned. Independent claim 67 requires the adjacent wood layers to be offset less than 45 degrees.

Hsu teaches a method of producing laminated veneer lumber made from at least two different species of wood. Hsu is concerned with solving problems associated with using mixed species in a single board. See, for example, col.3, ll. 14 - 15. Hsu uses natural or synthetic wax to reduce internal stresses during hot pressing. See, for example, col. 3, ll. 47 - 48.

The Examiner states the Hsu discloses the invention primarily as claimed, namely, a laminated wood board comprising several layers of veneer. In Hsu, the Examiner contends in the previous Office Action mailed November 8, 2005, that the first layer has a loose side in contact with the loose side of the second layer and the tight side of the second layer in contact with the tight side of the third layer, and so on.

However, the Examiner then states in the previous Office Action that Hsu does not disclose the grain orientation of the laminate. The grain orientation is the critical feature in the Applicant's invention. Hsu is silent on this critical feature found in the Applicant's claims. The Examiner has cited Brown as supposedly curing this deficiency.

Brown discloses a method of creating a built-up veneer by eliminating the drying of a single cut board before cementing. See, for example, col. 1, ll. 26 - 28. Brown unites veneers with casein or lactarine, lime and water or other materials while the wood is moist. See, for example, col. 1, ll. 34 - 41. Boards are cemented together in pairs and then the pairs are cemented together. See, for example, col. 2, ll. 64 - 73.

The Brown invention is directed to undried wood, not the dried veneers of Hsu and the instant invention. The Applicant respectfully disagrees that it would have been obvious to combine the mixed board product of Hsu with the bilateral arrangement of Brown.

There would have been no motivation by one of ordinary skill in the art at the time of the invention to combine the teachings of Hsu with the teachings of Brown. The cited references teach away from such a combination.

Hsu states that "[n]one of the prior art teaches using veneers of different wood species or how the veneer layers should be laid up relative to one another". See, for example, col.1, ll. 51 - 53. Brown is one of the prior art systems. Hsu teaches a method and product addressed specifically to mixed species boards. Brown does not describe use of mixed species boards. In contrast, Brown teaches use of single boards cut from a single source. See, for example, col. 1, ll. 28 - 31. As stated in MPEP Section 2145 X.D.2:

> It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

Therefore, independent claims 2, 18, 44 and 67, and the claims dependent thereon are allowable over Hsu and Brown.

The Applicant's invention seeks to overcome deficiencies in prior systems such as those found in Hsu and Brown. The Applicant's invention addresses a specific problem with existing laminated wood products. For example, the specification describes that laminated boards are needed "that can result in a desirable appearance when edge finished without diminishing strength and dimensional stability". See, for example, paragraph 0006 on page 1. The specification continues by stating that "the boards and shaped products of the present invention have the advantage of being resistant to cup and lateral movement while providing a long edge

that can easily be finished to produce an aesthetically pleasing result." See, for example, paragraph 0009 on page 2. Nowhere in either Brown or Hsu is there any mention of unilateral alignment of individual boards. Hsu is silent on the orientation of the boards and Brown teaches a bilateral alignment. Thus, the combination would not result in Applicant's claimed invention, which recites parallel grain layers and an improved finished appearance.

In levying an obviousness rejection under 35 U.S.C. 103, the Examiner has the burden of establishing (1) some suggestion or motivation to modify the reference or to combine reference teachings, (2) a reasonable expectation of success, and (3) that the prior art references, when combined, teach or suggest each and every claim limitation. See MPEP §2143 (Aug. 2001, Latest Revision August 2005). Here, this burden has not been met.

The Brown invention, even if combinable with Hsu, teaches to laminate the boards at ninety degrees or other inclinations. Consequently, only angles close to right angles would function in the Brown method. As noted above, Brown requires that boards be "equally strong" in either the lengthwise or cross-wise direction. The only way that this equality be realized would be with the boards laminated at right angles. In contrast, the Applicant uses unilateral alignment of boards. As described in the specification, Applicant's invention has the unsuspected result of increased structural strength and stability combined with improved aesthetic appearance. See, for example, paragraph 00029 on page 7 and paragraph 00033 on page 9. There is simply no motivation to depart from the teachings and warning of Brown to achieve the instant invention.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art to vary the grain orientation of the layers in the laminate of Hsu in view of the teachings of Brown in order to provide desired physical properties for a particular end use. Brown states that

the boards are cemented together "with the grain of the wood in the one running at right angles or other inclination to that of the other board". See, for example, col. 2, ll. 67 - 69. Brown then continues that the right angle arrangement of boards creates a final product that is "equally strong against bending or breaking, either lengthwise or cross-wise, instead of being weaker in one direction than in the other." See, for example, col. 2, ll. 75 - 78.

Brown thus teaches away from the limitations of the Applicant's invention set forth in independent claims 2, 18 and 44. As acknowledged by the Examiner, Hsu does not describe the grain orientation of the successive layers of the wood board. This defect is not cured in the secondary reference which uses green wood and teaches a 90-degree orientation or some other inclination. Brown teaches away from the invention defined in independent claims 2, 18 and 44, which describes a multi-ply board produced by orienting the grains of the successive layers with no inclination. As held in McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1354 (Fed. Cir. 2001):

> We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prima facie case of obviousness. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994).

Thus claims 2, 18 and 44, and the claims dependent thereon, are patentable over Hsu in view of Brown for this reason as well. Applicant respectfully requests withdrawal of the rejection.

Claims 49, 50, 55 and 56 are patentable under 35 U.S.C. 103(a) over Hsu (U.S. Patent 5,040,582) in view of Brown (U.S. Patent 671,467) and further in view of Hasegawa (U.S. Patent No. 4,747,899).

Claims 49, 50, 55 and 56 are dependent on independent claims 2 and 18. Independent claims 2 and 18 are patentable over Hsu in view of Brown as detailed above. Therefore, the

claims are patentable over Hsu in view of Brown and further in view of Hasegawa. Withdrawal of the rejection is respectfully requested.

Claims 32 and 56 - 66 are patentable under 35 U.S.C. 103(a) over Hsu (U.S. Patent 5,040,582) in view of Brown (U.S. Patent 671,467) and further in view of Applicant's acknowledged state of the art.

The Examiner states in the previous Office Action that the primary reference discloses laminating layers of wood together using adhesive. The Examiner further states that Applicant acknowledges that the processes used to make the instant invention are well known. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to use the well-known laminating methods to form the article of the primary reference depending on the desired physical properties for a particular use.

Claim 32 recites a method of fabricating a wood board, comprising laminating layers of wood together to form said board, wherein said board comprises a first layer of wood; a second layer of wood disposed in contact with said first layer of wood; a third layer of wood disposed in contact with said second layer of wood; and a fourth layer of wood disposed in contact with said third layer of wood; and a fifth layer of wood disposed in contact with said fourth layer of wood, wherein said first layer of wood, said second layer of wood, said third layer of wood, said fourth layer of wood, and said fifth layer of wood are hardwood and oriented so that grain of said first layer of wood, grain of said second layer of wood, grain of said third layer of wood, grain of said fourth layer of wood, and grain of said fifth layer of wood are unilaterally aligned.

Claim 32 is patentable over Hsu in view of Brown as described above for independent claims 2 and 18.

The Examiner incorrectly includes claims 56, 65 and 66 in his argument directed to the use of adhesives. Claim 56 states that "the non-wood veneer components are selected from the group consisting of aluminum, steel and lead." Claim 65 states that "non-wood veneer components are interspersed between the wood veneer sheets." Claim 66 states that "the non-wood veneer components are selected from the group consisting of aluminum, steel and lead." None of these claims recites use of adhesives. The Applicant requests withdrawal of the rejections of these claims.

The use of adhesives in the Applicant's invention would not have been obvious over Hsu in view of Brown and further in view of Applicant's acknowledged state of the art. As stated previously, the Applicant has presented a novel, non-obvious invention using layers of unilateral veneer to create a structurally strong and aesthetically pleasing board. It would not have been obvious to one of ordinary skill in the art at the time of the invention to combine Hsu with Brown and further in view of the Applicant's acknowledged prior art to create a unilaterally bonded board when the cited references disclose only bilaterally bonded boards.

Therefore, the claims are patentable over Hsu in view of Brown and further in view of the Applicant's acknowledged prior art. Applicant respectfully requests withdrawal of the rejection.

Claims 46 and 52 are patentable under 35 U.S.C. 112, first paragraph.

Claims 46 and 52 are dependent claims that depend from independent claims 2 and 18, respectively. Claims 46 and 52 read as follows: "said board is about 0.25 inches to about 2.5 inches in thickness, wherein thickness is measured perpendicularly through said layers."

There is adequate description in the specification to reasonably convey to one skilled in the relevant art at the time of the invention that the inventor was in possession of the claimed

invention. The Examiner contends that the upper limit of the ranges in claims 46 and 52 is not described in the specification. Specifically, the Examiner contends that the upper limitation of "about 2.5 inches" is not described in the specification.

The Applicant respectfully disagrees with the Examiner's reading of the present application. The Examiner's attention is drawn, for example, to paragraph 00029 on page 7 of the specification. The Applicant has disclosed that "the total thickness of the board is about 0.1 inches to about 10 inches, or about 0.25 inches to about 7 inches, or about 0.5 inches to about 5 inches." The Applicant further discloses that "the total thickness of the board is at least about 0.1, 0.25, 0.5, 0.75, 1.0, 1.5, 2.0, or 5.0 inches."

The limitation described in claims 46 and 52 clearly falls within this range of board thicknesses. A board thickness of 2.5 inches falls within the disclosed range of board thicknesses ranging from about 0.1 to about 10 inches. In addition, originally filed claims 12 and 26 recite a board thickness of 0.25 to 2.5 inches. These originally filed claims are part of the specification as indicated in 35 U.S.C. §112. Accordingly, these limitations are not new matter.

Therefore, there is adequate description in the specification to reasonably convey to one skilled in the art at the time of the invention that the inventor was in possession of the invention. Claims 46 and 52 are patentable under 35 U.S.C. 112, first paragraph. Withdrawal of the rejection is respectfully requested.

CONCLUSION

Applicant respectfully submits that the claims now stand ready and in condition for allowance. Based on the foregoing, further and favorable action on the merits is respectfully requested. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

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